PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re application of

Akihisa MURATA, et al.

Docket No: Q64434

Appln. No.: 09/853,787

Group Art Unit: 1771

Confirmation No.: 7102

Examiner: Daniel R. Zirker

Filed: May 14, 2001

For: HEAT-PEELABLE PRESSURE-SENSITIVE ADHESIVE SHEET

SUBMISSION OF APPELLANTS' BRIEF ON APPEAL

Commissioner for Patents
Washington, D.C. 20231

Sir:

Submitted herewith please find an original and two copies of Appellant's Brief on Appeal. A check for the statutory fee of $320.00 is attached. The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account. A duplicate copy of this paper is attached.

Respectfully submitted,

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WASHINGTON OFFICE

23373

PATENT TRADEMARK OFFICE

Date: July 14, 2003

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APPELLANTS' BRIEF ON APPEAL UNDER 37 C.F.R. § 1.192

Commissioner for Patents
Washington, D.C. 20231

Sir:

In accordance with the provisions of 37 C.F.R. § 1.192, Appellants submit the following:

I. REAL PARTY IN INTEREST

The real party in interest is assignee, NITTO DENKO CORPORATION, of Osaka, Japan.

II. RELATED APPEALS AND INTERFERENCES

Appellants, Appellants' legal representative, and the Assignee in this application are not aware of any other appeals or interferences which will directly affect or be affected by or have a bearing on the Board's decision in the pending appeal.

III. STATUS OF CLAIMS

This is an appeal from the Examiner's rejection of claims 2-5.

IV. STATUS OF AMENDMENTS

The Response of February 28, 2002 included no change in status of the appealed claims. The Amendment filed on November 1, 2002 was entered. There are no unentered Amendments of record.

V. SUMMARY OF THE INVENTION

The present invention relates to a heat-peelable pressure-sensitive adhesive sheet for fixing electronic parts, which can be easily peeled from an adherend by short-term heating. Specification, page 1, 1st paragraph.

Heat-peelable pressure-sensitive adhesive sheets comprising a substrate and formed thereon a pressure-sensitive adhesive layer containing a foaming agent or expending agent have been used as a means for temporarily fixing electronic parts and as labels to be recycled. Specification, page 1, 2nd paragraph.

However, when these heat-peelable pressure-sensitive adhesive sheets are used for temporary fixation in the production of giant magnetoresistive (GMR) heads having poor resistance to static electricity, electrostatic breakage occurs due to static electricity generated in the head production process, resulting in an impaired yield of products. Specification, page 2, 1st paragraph.

Appellants have found that the electrostatic breakage of electronic parts can be prevented when a heat-expandable pressure-sensitive adhesive layer is regulated so as to have a surface resistivity not higher than a specific value, while maintaining the functions of adhesiveness before heating and peelability after use. Specification, page 2, 2nd and 3rd paragraphs.

The object of the present invention has been achieved by providing a heat-peelable pressure-sensitive adhesive sheet comprising a substrate and formed on at least one side thereof a heat-expandable pressure-sensitive adhesive layer containing heat-expandable microspheres, wherein the heat-expandable pressure-sensitive adhesive layer has a surface resistivity of 10^{12} Ω/□ or lower, and a maximum surface roughness of 5 μm or less before heating. See claim 3.

VI. ISSUES

The essential issue in this appeal is whether the Examiner has made a *prima facie* showing of obviousness in rejecting claims 2-5 under 35 U.S.C. §103(a) over either JP Patent Abstract 11 166164 or Appellants' "admitted prior art" in view of Derwent Abstract XP-002191577.

VII. GROUPING OF CLAIMS

Claims 2-5 have been rejected as obvious under 35 U.S.C. §103(a) over either JP Patent Abstract 11 166164 or Appellants' "admitted prior art" in view of Derwent Abstract XP-002191577, and all claims stand or fall together.

VIII. ARGUMENTS

The Examiner has not made a *prima facie* showing of obviousness of the claimed invention over either JP Patent Abstract 11 166164 or Appellants' "admitted prior art" in view of Derwent Abstract XP-002191577 and therefore the rejections of claims 2-5 over either JP Patent Abstract 11 166164 or Appellants' "admitted prior art" in view of Derwent Abstract XP-002191577 should be reversed.

Claims 2-5 have been rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over either JP '164 or Appellant's "admitted prior art" in view of XP '577. JP '164 discloses a thermal releasable pressure-sensitive adhesive sheet having a thermally expandable microsphere-containing pressure sensitive adhesive layer on at least one surface of a base through optionally a rubbery organic elastomeric layer. Abstract.

A heat-peelable pressure-sensitive adhesive sheet comprising a substrate and a pressure-sensitive adhesive layer containing a heat-expendable microspheres is also known. Specification, page 1, 2nd paragraph.

In the Office Action dated August 1, 2002, the Examiner admits, at the top of page 3, that each of the primary references lacks a teaching of the claimed surface resistivity performance parameter, i.e., a minimal level of antistatic behavior.

U.S. Pat. Pub. '515 discloses a sheet for protecting a paint film, comprising a rubber-based, pressure-sensitive adhesive layer having a surface roughness of no more than 1 μm, a substrate and a modified surface layer, in this order. Abstract and page 2, paragraph [0012].

XP '577 discloses a pressure-sensitive adhesive composition having a surface resistivity of less than 10^{11} ohm when coated on a polyester film. Abstract. However, as indicated by the Examiner, XP '577 is not enabling with respect to how to obtain the low antistatic values it claims to teach.

The Examiner asserts that attaining a surface resistivity value is well known to one of ordinary skill in the art, citing Gutman et al (U.S. 5,508,107) as evidence.

Gutman et al discloses that a number of methods known for preparing antistatic adhesive compositions, for example, addition of conductive moieties, addition of ionic materials, addition of insoluble spherical domains, and use of a metal foil tape backing. Col. 1, line 65-col. 2, line 23.

Appellants respectfully submit that the Examiner has not made a *prima facie* showing of obviousness. To establish a *prima facie* case of obviousness, there must be (1) some suggestion or motivation within the references or in the knowledge generally available to one of ordinary skill in the art to modify the reference; (2) a reasonable expectation of success; and (3) the prior art references must teach or suggest all of the claimed limitations. See *Hodesh v. Block Drug Co.*, 786 F.2d 1136, 1153, n.5, 229 USPQ 182, 187, n.5 (Fed. Cir. 1986); *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438, 1438 (Fed. Cir. 1991); and *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). In this case, the cited references do not teach or suggest a heat-peelable pressure-sensitive adhesive sheet comprising a substrate and formed on at least one side thereof a heat-expandable pressure-sensitive adhesive layer containing heat-expandable microspheres, wherein the heat-expandable pressure-sensitive adhesive layer has a surface resistivity of 10^{12} Ω/□ or lower, and a maximum surface roughness of 5 μm or less before heating.

In Appellants' independent claim 3, the preferred embodiment of surface resistivity and a maximum surface roughness of 5 μm or less is recited. As described in the specification in the paragraph bridging pages 14-15, such a maximum surface roughness value leads to good adhesiveness. Appellants respectfully submit that this combination of properties, as recited in independent claim 3, is not taught or suggested by any of the references cited by the Examiner.

Also as shown in the Table at page 31, in Comparative Example 1 the adhesive sheet had a surface resistivity and maximum roughness outside the scope of claim 3, in contrast to Examples 1-4 representative of the present invention as defined in claim 3. The data show that the Comparative Example 1 was generally inferior in adhesive force (but note Example 3). Nonetheless, as described at the bottom of page 30, when the pressure-sensitive adhesive sheets obtained in the Examples of the present invention were used, neither static breakage nor adhesion failures, such as undesirable separation of parts from the pressure-sensitive sheet, occurred, and the adhesive sheets could be smoothly peeled off after heating. In contrast, when the pressure-sensitive adhesive sheet obtained in the Comparative Example was used for the temporary fixing of GMR heads, static breakage occurred. Thus, on balance, the evidence establishes unexpected results.

With regard to XP '577, Appellants respectfully submit that it cannot be used as prior art with regard to the low antistatic values it claims (surface resistivity of $< 10^{11}$ ohm), because it is nonenabling with respect to how to obtain such values, as conceded by the Examiner.

In view of the above, Appellants respectfully request reversal of the rejections of claims 2-5 as obvious over either JP '164 or Appellants' "admitted prior art" in view of XP '577.

IX. CONCLUSION

Appellants respectfully request the members of the Board to reverse the rejection of the appealed claims and to find each of the claims allowable as defining subject matter is patentable over the applied references.

The present Brief on Appeal is being filed in triplicate. Unless a check is submitted herewith for the fee required under 37 C.F.R. §1.192(a) and 1.17(c), please charge said fee to Deposit Account No. 19-4880.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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APPENDIX

CLAIMS 2-5 ON APPEAL:

2. The heat-peelable pressure-sensitive adhesive sheet as claimed in claim 3, wherein the heat-expandable pressure-sensitive adhesive layer before heating has a center line average surface roughness of 2 μm or less.

3. A heat-peelable pressure-sensitive adhesive sheet comprising a substrate and formed on at least one side thereof a heat-expandable pressure-sensitive adhesive layer containing heat-expandable microspheres, wherein the heat-expandable pressure-sensitive adhesive layer has a surface resistivity of 10^{12} Ω/□ or lower, and the heat-expandable pressure-sensitive adhesive layer before heating has a maximum surface roughness of 5 μm or less.

4. The heat-peelable pressure-sensitive adhesive sheet as claimed in claim 3, which further comprises a rubber-like organic elastic layer interposed between the substrate and the heat-expandable pressure-sensitive adhesive layer.

5. The heat-peelable pressure-sensitive adhesive sheet of claim 4, wherein the rubber-like organic elastic layer comprises a pressure-sensitive adhesive material.